Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] What is claimed is:

1.An electrode array printer comprising:

a housing;

an image roller rotatably installed inside the housing;

a plurality of developer modules installed surrounding the image roller, each of the developer modules comprising:

an electrode array printhead installed neighbor to a side surface of the image roller for emitting an electron array of a predetermined level onto the side surface and forming an electrostatic image on the side surface;

a toner cartridge installed inside the housing for containing toner; and

a developer roller rotatably installed neighbor to the toner cartridge, the developer roller capable of attracting the toner contained in the toner cartridge, and the electrostatic image capable of attracting toner attracted by the developer roller when the developer roller rolls to a position where the developer roller is neighbor to the electrostatic image; and

a transfer roller rotatably installed neighbor to the side surface of the image roller and electrically connected to

a first bias voltage, the first bias voltage enabling a printing media disposed between the image roller and the transfer roller to attract toner attracted by the electrostatic image.

[c2] 2.The electrode array printer of claim 1, wherein the image roller comprises:
a conductive bias potential layer electrically connected to a second bias voltage; and
a dielectric layer formed on the conductive bias potential layer;
wherein the second bias voltage enables the electrostatic image formed on the image roller to attract toner in the toner cartridge.

[c3] 3.The electrode array printer of claim 2, wherein the conductive bias potential layer is made of aluminum.

[c4] 4.The electrode array printer of claim 2, wherein the conductive bias potential layer is made of resin polymers.

[c5] 5.The electrode array printer of claim 2, wherein the dielectric layer is made of glass.

[c6] 6.The electrode array printer of claim 2, wherein the dielectric layer is made of ceramic.

[c7] 7.The electrode array printer of claim 2, wherein the second bias voltage is a DC voltage.

[c8] 8.The electrode array printer of claim 2, wherein the second bias voltage is a combination of a DC voltage and an AC voltage.

[c9] 9.The electrode array printer of claim 1, wherein the electrostatic image formed on the image roller attracts toner of a quantity corresponding to the first bias voltage.

[c10] 10.The electrode array printer of claim 1 comprising four developer modules.

[c11] 11.The electrode array printer of claim 10, wherein the four developer modules have four toner cartridges containing yellow, cyan, magenta and black toner respectively.

[c12] 12.The electrode array printer of claim 1, wherein the electrode array printhead comprises a plurality of carbon nanotubes.

[c13] 13.The electrode array printer of claim 1, wherein the electrode array printhead comprises a plurality of cone-shaped electrodes.

[c14] 14.The electrode array printer of claim 13, wherein the

cone-shaped electrodes are gated electrodes.

[c15] 15.The electrode array printer of claim 1 further comprising a toner blade installed inside the housing for wiping off toner residue on the image roller after the printing media has attracted toner disposed on the image roller.

[c16] 16.The electrode array printer of claim 1 further comprising a fuser installed inside the housing for adhering toner disposed on the printing media onto the printing media.

[c17] 17.The electrode array printer of claim 16, wherein the fuser comprises a pair of fuser rollers for melting toner disposed on the printing media when the printing media is passing through the fuser rollers.